UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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ART UNIT	PAPER NUMBER
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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>8/14/08 & 4/14/08</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-12,43,71-73 and 98</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-12,43,71-73 and 98</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>05/05/2008</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Response to Amendment

Election/Restrictions

Applicant's election without traverse of group I (claims 1-12, 43, 71-73 and 98) in the reply filed on Aug. 14, 2008 is acknowledged.

This office action is in response to the amendment filed on Aug 14, 2008 and April 14, 2008.

Claims 1-12, 43, 71-73 and 98 are pending for examination; claims 1-2, 5-8 and 43 have been amended; claim 98 has been newly added.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The recited "storage media" in claims 1-12, 43, 71-73 and 98 lacks antecedent basis because it is not explicitly defined in the instant specification. Proper correction is required.

To expedite a complete examination of the instant application, the examiner interprets the claimed "storage media" is any media that can store data.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 7-10, 43 and 71-73, are rejected under 35 U.S.C. 102(e) as being

anticipated by Evans et al. (U.S. Publication No. 2003/0014391).

As to claim 1, Evans et al. (hereinafter referred as Evans) discloses a distributed

file system [e.g., Abstract, Fig. 1 and associated texts], comprising:

A plurality of storage units [e.g., Abstract, Fig. 1 and associated texts] configured

to communicate with each other, said plurality of storage units including:

a first storage units including a processor and storage media [e.g., the

hierarchical clustered unit including forwarding computer P, R1, etc. Fig. 1, Abstract,

lines 14 - 19];

a second storage units including a processor and storage media [e.g., the

clustered unit including forwarding computer C1, Routers (R2, R5-R7), Application

Server Receivers (H1-H3) and a plurality of User computers (Us) of Fig. 1, section:

0051];

a third storage units including a processor and storage media [e.g., the clustered

unit including forwarding computer C2, Routers (R3, R8-R10), Application Server

Receivers (H4-H5) and a plurality of User computers (Us) of Fig. 1];

a forth storage units including a processor and storage media [e.g., the clustered

unit including forwarding computer C3, Routers (R4, R11-R13), Application Server

Receivers (H7-H9) and a plurality of User computers (Us), Fig. 1, section: 0051];

a first file stored on the distributed file storage system [e.g., the data elements

stored in a switching nodes interconnected network (e.g., as shown in Fig. 1), Sections:

P1., 0004 - 0012, P. 4, Sections: 0051-0055];

a first file portion of the file comprising a first set of file data stored in the first

storage units [e.g., Fig(s). 2a-b and associated texts];

a second file portion of the file comprising a second set of file data stored in the

second storage units, wherein the second set of file data is different from the first set of

file data [e.g., Fig. 2a-b and associated texts];

a first metadata to identify in part the location of the file stored on the first storage

units, the second storage units, the third storage units, and the forth storage units [e.g.,

the multicasting IP packets at Section: 0060];

a second metadata, different at least in part from the first metadata, to

supplement the first metadata in identifying the location of the file, the second metadata

stored on at least one, but not all, of the first storage units, the second storage units, the

third storage units, and the forth storage units but not on all of said storage units [e.g.,

the unicasting IP packets at Section: 0060];

a switch units in communication with the set of storage units to receive a read request for the file stored on the distributed file system and to sent the read request to any one of the plurality of storage units [e.g., the network switching nodes processing at P. 1, Sections: 0004 – 0014, 0046-0050];

each of the set of storage units configured to use the first metadata to process a read request on behalf of the distributed file storage system [e.g., Fig(s)1-6 and associated texts, Sections: 0045-0050].

As to claim 2, in addition to the features recited in claim 1, Evans further disclosed the system comprising error correction data related to the file, and stored in the distributed file storage system [e.g., Evans: P. 7, Section: 0077].

As to claim 7, in addition to the features recited in claim 1, Evans further discloses that each of the storage units are configured to receive a request to and initiate the request to move the first file portion in real-time from the first storage units to the third storage units and to send a request to update the second metadata to indicate the location of the moved first file portion [e.g., Evans: P.1, Section 0016 – P.2, Section 0017].

As to claim 8, in addition to the features recited in claim 1, Evans further discloses that each of the storage units are configured to receive a request to and initiate the request to replicate the first file portion in real-time from the first storage units

to the third storage units and to send a request to update the second metadata to

indicate the location of the replicated first file portion [e.g., Evans: P.1, Sections: 0022-

0023].

As to claims 9-10, in addition to the features recited in claim 1, Evans further

disclosed that the second metadata includes metadata related to the locations that the

file data is stored and the parent directory of the file [e.g., Evans: P. 2, Section: 0024].

As to claim 43, in addition to the features recited in claim 1, Evans further

discloses the file has been stored on a number of storage units, wherein the number is

equal to or grater than two is an intended use of distributing file processing [e.g., Evans:

Fig. 1 and associated texts].

As to claims 71-73, in addition to the features recited in claim 1, Evans further

disclosed the claimed limitations [e.g., Evans: Fig. 4a-c and associated texts].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.
> This application currently names joint inventors. In considering patentability of the claims under
> 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was
> commonly owned at the time any inventions covered therein were made absent any evidence to

the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3-4, 5-6, 11-12 and 98, are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (U.S. Publication No. 2003/0014391), in view of Mason, Jr. (U.S. Patent No. 5,884,098).

As to claim 3, in addition to the features recited in claim 2, Evans did not explicitly disclosed that the error correction data includes parity information

However, Mason disclosed the claimed features [e.g., Mason: col. 1, lines 36-65].

Evans and Mason are both in the same endeavor to optimize the storing of data over program storage device [e.g., Evans: claim 6, Mason: Fig. 6 and associated texts], hence, with the teachings of Evans and Mason in front of him/her, it would have been obvious for an ordinary skilled person in the art at the time the invention was made, to apply the well known data distribution techniques as taught by Mason in Evan's system, for the purpose to distribute data across storage units, such that, the combined system is upgraded with an error correction data including parity information which allows the combined storage system to recover data from the working disk drives if one disk drive fails in the system in a combination as suggested by Mason [e.g., Mason: col. 1, lines 36 - col. 2, lines 52].

As to claim 4, the combined system of Evans and Mason further disclosed the parity information includes parity data block and location information indicating where

the parity data blocks are stored, wherein such location information is used later to
retrieve the parity blocks and the second metadata further indicates the location
information [e.g., Mason: col. 1, lines 36-65].

As to claim 5, in addition to the features recited in claim 2 the combined system
of Evans and Mason further disclosed that the error correction data includes
redundancy data related to the file and the second metadata further indicates the
location of the redundancy data [e.g., Mason: col. 1, lines 18-65].

As to claim 6, in addition to the features as recited in claim 5, the combined
system of Evans and Mason further discloses that the first metadata related to the
location of the file includes metadata related to the root directory [e.g., Evans: P. 2,
Section: 0024].

As to claims 11-12, in addition to the features recited in claim 1, the combined
system of Evans and Mason further disclosed that the claimed read/write transaction
features cited by applicant. [e.g. Mason: col. 2, lines 11-40].

As to claim 98, in addition to the features recited in claim 1, the combined system
of Evans and Mason further disclosed that the second set of file data comprises a nest
set of file data, wherein the next set of file data is sequential to the first set of file data
[e.g., Mason: the RAID Level 5 disk set schema, Fig. 3 and associated texts].

Response to Arguments

Applicant's arguments filed on April 14, 2008 have been fully considered but they are not persuasive.

The examiner disagrees with applicant's arguments "Evans is not a distributed file system, but instead relates to multicast distribution of data to receivers, such as, for example, users that want to receive news articles for a particular sport."

In replay to the above arguments, the examiner directs applicant to the following excerpts disclosed by Evans. For example, in the Abstract, lines 1-6, Evans clearly cited his invention as "A method and apparatus is provided for **distributing data elements from a data source (N) to receivers (H1 to H9) over a communications network**. **A data element may be one at least two types, including a type conveying a full data set** and **a type conveying a data set comprising only corresponding meta-information**." In addition, Evans disclosed that "**With reference to FIG. 3,** in composing a subscription request packet according to the structure shown in FIG. 3, **the news application program controls the news application server (H1 to H9) to insert data indicating 5 that a file is sought, that the file relates to a particular news data source 10**, an identification of the subject 20 about which the news articles are sought and an indication 25 of whether only meta-information is required for news articles about that subject 20." **Thus, in contrary to applicant's arguments that the invention of Evans comprises method and apparatus which applies metadata for**

**distributing file related to a particular news data source over a communication
network, therefore Evans' system deemed to be a distributed file system**.

In addition, Evans clearly disclosed in the Abstract as following: "**A hierarchy of
forwarding computers (P, C1 to C3) is provided to forward a data element
supplied by a data source (N) to sets of receivers (H1 to H9). Each forwarding
computer (P, C1 to C3) is arranged with access to a respective forwarding table
for recording the requirements of receivers to receive data elements of one of the
available types, each forwarding computer (P, C1 to C3) forwarding a received
data element according to the contents of the respective forwarding table. A
receiver (H1 to H9) of a meta-information data element may initiate a search by
the forwarding computers (P, C1 to C3) for a copy of a corresponding full data set
stored at another receiver (H1 to H9).**" wherein, the clustered units including the
plurality of forwarding computers such as P, C1, C2 and C3 as shown in Fig. 1 &
associated texts read on the claimed first, second, third, and forth computers.

Evans further disclosed a file stored on the distributed file storage system [e.g.,
the data elements stored in a switching nodes interconnected network (e.g., as
shown in Fig. 1) & Sections: 0004 – 0012, 0051-0055]

Evans further disclosed the claimed "a first file stored on the distributed file
storage system [e.g., **the respective site-level forwarding tables/directories** stored in
each one of the forwarding computers such as P, C1, C2, C3 as shown in Fig(s). 2a-2b,
sections: 0051- 0055];

a first file portion of the file comprising a first set of file data stored in the first

storage units [e.g., **the organizational-level table/directory** stored in the forwarding

computer P including the IP addresses for each member of set (e.g., C1 - C3) with

storage units (e.g., the respective site-level forwarding table/directory) as shown in

Fig(s). 2a-2b, sections: 0051- 0055];

Evans further disclosed in Section "0060" the claimed "a first metadata" which

identifies in part the location of the file stored on the first storage units, the second

storage units, the third storage units, and the forth storage units [e.g., **the IP packets**

with metadata for multicasting that includes subject-to-address directories at

original level stored in each of forwarding computers P – C3 as shown in Fig.(s)

4a - 5]; and the claimed a second metadata, different at least in part from the first

metadata, to supplement the first metadata in identifying the location of the file, the

second metadata stored on at least one, but not all, of the first storage units, the

second storage units, the third storage units, and the forth storage units but not on all of

said storage units [e.g., **the IP packets with metadata for unicasting that includes**

subject-to-address directories at application level stored in at least one of the

forwarding computer (e.g., C2) at Section: 0060];

Moreover, Evans disclosed the claimed "each of the set of storage units

configured to use the first metadata to process a read request on behalf of the

distributed file storage system" [e.g., **the use of a user interface of user computing**

system (Us) to communicated with the plurality of clustered storage systems over

a point-to-point switching nodes network by applying the structures as discussed

above including metadata and application logical flows to process a read request

on behalf of the distributed file storage system as shown in Fig.(s) 1-6 and

specific Sections: 0045-0050].

The examiner further disagrees with applicant's arguments that "Evans does not

disclose error correction data related to the file data, the error correction data stored in

the distributed file storage system nor does Evan disclose this feature in Paragraph 77".

In reply to the above arguments, the examiner excepted the section 77 as

following: "In a further embodiment of the present invention, operation of forwarding

computers may be adapted to take account of the situation where, after supplying an

address apparently giving the location of a requested full data set, the requested data

set is found not to be available from that address when access is attempted by a news

application server. In that embodiment, in the event of an error message being returned

to the requesting news application server, a new access request message may be

transmitted through the respective parent forwarding computer, including the erroneous

address. **Forwarding computers may be adapted to be responsive to the inclusion**

of such an address in an access request message to compare a recorded address

with the included erroneous address and to delete the recorded address from the

appropriate forwarding table record if it matches the erroneous address." Wherein

Evens clearly cited that the forward computers adapted to perform the error correction

as claimed.

As to the rest arguments, which either rehashed issues already addressed on record or contained more details than the claims. Since the combination of the applicant's admission and the prior art reference is to modify the applicant's admission with the relevant teachings in the prior art, not the other way around as stated in applicant's remarks. In addition, "the nature of the teaching is highly relevant and must be weighed in substance. A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In re Gurley, 27 F.3d 551, 554, 31 USPO2d 1130, 1132 (Fed. Cir. 1994), (MPEP 2145 X.D.1) Claims 3-4, 5-6 and 11-12 are direct to their base claims 1-2 respectively, these claims would have been obvious over the prior art because the combined references teach the same features as claimed and was useful for the same purpose. Furthermore, applicant did not distinguish the claimed subject matter from the method taught in the combined prior art, and applicant asserted no inventive features beyond what was known to the art.

As set forth above, because applicant does not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections. The examiner concludes that the prior art read on the claimed features.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y. Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mofiz Apu can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from

a USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Susan Y Chen/
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November 21, 2008

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